

REMARKS / ARGUMENTS

Claims 1-6 and 21-25 remain in the application. Of these, claims 1-5 stand rejected, claim 6 stands objected to, and claims 21-25 are newly presented. Claims 7-20 have been canceled, without prejudice, as being drawn to a non-elected claim group.

New claims 21-25 are not believed to add new matter. Support for claim 21 is found, at least, in paragraph [0010] of Applicant's specification. Support for claims 22 and 23 is found, at least, in paragraph [0015] of Applicant's specification. Support for claims 24 and 25 is found, at least, in paragraph [0016] of Applicant's specification.

1. Restriction Requirement

The Examiner has divided the claims into two groups as follows:

Group I: Claims 1-6.

Group II: Claims 7-20.

Applicant affirms his election on September 27, 2004 to prosecute the claims of Group I (i.e., claims 1-6). Claims 7-20 have been canceled.

2. Rejection of Claims 1-5 Under 35 USC 103(a)

Claims 1-5 stand rejected under 35 USC 103(a) as being unpatentable over Kohl et al. (US Patent No. 6,165,890; hereinafter "Kohl").

With respect to claim 1, the Examiner notes that:

...some claims are drafted in a product by process format. It is the product itself which must be new and unobvious. Unless some

unexpected result is shown that occurs due to Applicant's specific process(es), different processing steps are not patentably distinguishing for claims to an article.

10/1/2004 Office Action, sec. 6, p. 3.

In response to the Examiner's above note, Applicant further notes the language of MPEP §2113, which states:

The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., *In re Garner*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979) (holding "interbonded by interfusion" to limit structure of the claimed composite and noting that terms such as "welded," "intermixed," "ground in place," "press fitted," and "etched" are capable of construction as structural limitations.).

In Applicant's claim 1, a sacrificial material is removed to form a waveguide defined by first and second metal layers. As a result, Applicant's claim 1 goes beyond *implying* structure and specifically recites structure. In addition, Applicant's claim 1 implies a certain quality of waveguide as a result of the manner in which it is produced.

With respect to Applicant's claim 1, the Examiner further asserts that:

Kohl teaches the structure of the present invention but does not teach having a metal layer covering the gold metal lines (100).

In view of the prior art teaching, one skill in the art would choose a metal instead of SiO₂ layer as the top covering layer because with both top and bottom layer being same metal materials could eliminate thermal mismatch during the heating process.

10/1/2004 Office Action, sec. 6, p. 3.

Applicant respectfully disagrees. Applicant's claim 1 claims a "waveguide". Kohl's disclosure makes absolutely no mention of a waveguide. Although Kohl's apparatus could be modified as the Examiner suggests, Kohl

provides no suggestion or motivation to do this. And, even if Kohl's apparatus is so modified, it is not clear that the resulting structure would operate as a waveguide. In addition, one of ordinary skill in the art would be unmotivated to even consider the applicability of Kohl's teachings to waveguides, as there is nothing in Kohl's teachings that indicate they are at all related to waveguide manufacture.

In suggesting how Kohl's apparatus might be modified, Applicant believes the Examiner is merely working backward from their own teachings (i.e., using hindsight) to determine what teachings are related to Applicant's claims. However, in order to make a prima facie case of obviousness under 35 USC 103(a), the Examiner needs to show that one of ordinary skill in the art would have been motivated to modify Kohl's teachings (i.e., work forward) *in the absence of Applicant's own teachings*. Applicant does not believe the Examiner has done this – especially given the fact that Kohl's lengthy patent specification does not disclose even a single waveguide embodiment. Nor does Kohl make any mention that its teachings are applicable to waveguide manufacture.

Applicant's claim 1 is believed to be allowable for at least the above reasons. Applicant's claims 2-5 are believed to be allowable at least for the reason that they depend from claim 1.

3. Allowable Subject Matter

Claim 6 stands objected to as being dependent upon one or more rejected claims, but is otherwise allowable. Applicant thanks the Examiner for indicating the allowability of this claim. However, in light of the above arguments for the allowability of Applicant's remaining claims, Applicant chooses to leave this claim in dependent form at this time.

4. New Claims 21-25

Applicant presents new claims 21-25. Claims 21-23 recite waveguides produced by plating either the first or second metal layer thereof. Claims 24 and 25 recite waveguides produced by etching the second metal layer thereof. Applicant has reviewed the teachings of Kohl and cannot find any mention of a product having the structures resulting from these process steps.


Claims 21-25 are believed to be allowable at least for the reason that they depend from claim 1, as well as for the reasons set forth in the above paragraph.

5. Conclusion

In light of the above Amendment, Remarks and Arguments, Applicant respectfully requests the issuance of a Notice of Allowance.

Respectfully submitted,
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